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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/774,617	02/01/2001	Benny L. Danovi	A7893	3353

7590 10/30/2002

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WASHINGTON, DC 20037-3213

EXAMINER

ENSEY, BRIAN

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 10/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/774,617

Applicant(s)

DANOVI, BENNY L. 

Examiner

Brian Ensey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 and 33 is/are rejected.
- 7) ☒ Claim(s) 28-32 and 34-37 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 11, 13, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Faraone. U.S. Patent No. 4,881,617.

Regarding claim 1, Faraone discloses a speaker cone comprising: a base portion having a front end and a rear end, wherein the front end contains at least one discontinuity such that a first distance from a reference point on a longitudinal axis of the base portion to a first point on the front end is different than a second distance from the reference point to a second point on the front end (See Figs. 1 and 5).

Regarding claims 2-4, Faraone further discloses a speaker cone wherein a flexural wave is radiated from the base portion past the front end when the base position vibrates, and wherein the discontinuity substantially reduces an occurrence of at least one geometric mode resonance created by the flexural wave and wherein at least one geometric mode resonance comprises an azimuthal mode resonance and wherein at least one geometric mode resonance comprises a radial mode resonance (See col. 4, lines 56-68 and col. 5, lines 1-6).

Regarding claim 5, Faraone further discloses a speaker cone wherein at least one discontinuity comprises a first discontinuity, wherein the first discontinuity comprises a radiating

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area that is substantially greater than a radiating area of a portion of the front end opposed to the first discontinuity (See Figs. 5 and 6).

Regarding claim 6, Faraone further discloses a speaker cone wherein at least one discontinuity comprises a first discontinuity and a second discontinuity disposed adjacent to the first discontinuity on the front end, and wherein a radius of the front end gradually changes when traveling along the front from the first discontinuity to the second discontinuity (See Figs. 1 and 5).

Regarding claims 11, 13 and 14, Faraone further discloses a speaker cone wherein at least one discontinuity contains a plurality of discontinuities, wherein the plurality of discontinuities is an even number of discontinuities and wherein a cross-section of the base portion(3) is circular (See Figs. 1 and 3 and col. 4, lines 4-6).

Claims 1, 7-10, 15-22, 24, 26, 27 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Faraone. U.S. Patent No. 5,880,412.

Regarding claim 1, Faraone discloses a speaker cone comprising: a base portion having a front end and a rear end, wherein the front end contains at least one discontinuity such that a first distance from a reference point on a longitudinal axis of the base portion to a first point on the front end is different than a second distance from the reference point to a second point on the front end (See Figs. 5 and 7).

Regarding claim 7, Faraone further discloses a speaker cone wherein at least one discontinuity comprises a first discontinuity and a second discontinuity disposed adjacent to the first discontinuity on the front end, and wherein a height of the front end gradually changes when traveling along the front end from the first discontinuity to the second discontinuity (See Fig. 6).

Regarding claim 8, Faraone further discloses a speaker cone wherein a radius of the front end gradually changes when traveling along the front end from the first discontinuity to the second discontinuity (See Fig. 5).

Regarding claim 9, Faraone further discloses a speaker cone wherein at least one discontinuity causes a first portion of the front end to be located in a perpendicular plane that is perpendicular to the longitudinal axis of the base portion and causes a second portion of the front end not to be located in the perpendicular plane (See Fig. 5).

Regarding claim 10, Faraone further discloses a speaker cone wherein at least one discontinuity causes a first portion of the front end to be different than a radius of a second portion of the front end (See Fig. 5).

Regarding claim 15, Faraone further discloses a speaker cone wherein the speaker cone is a whizzer cone that reproduces high frequency sounds (See Fig. 6 and col. 1, lines 9-12).

Regarding claims 16-18, Faraone further discloses a speaker cone wherein at least one discontinuity comprises a plurality of discontinuities that are evenly spaced around the front end of the base portion, wherein the plurality of discontinuities have the same size and the same shape, wherein the plurality of discontinuities form a cyclical wave in the front end of the base portion See Figs. 5-7).

Regarding claim 19, Faraone discloses a speaker cone, comprising: a base portion having a front end and a rear end, wherein the front end contains a plurality of discontinuities that form a cyclic wave in the front end of the base portion (See Fig. 6).

Regarding claims 20-22, 24, 26 and 27, Faraone further discloses a speaker cone wherein a first distance from a reference point on a longitudinal axis of the base portion to a first point on

the front end is different than a second distance from the reference point to a second point on the front end, wherein a radius of the front end at the first point is different than a radius of the front end at the second point, wherein a height of the front end at the first point is different than the height of the front end at a second point, wherein the cyclic wave is a sine wave, wherein the speaker cone is a whizzer cone that reproduces high frequency sounds, wherein a cross-section of the base portion is circular and a radius of the circular cross-section gradually increases while traveling in a direction from the rear end to the front end (See Figs. 5 and 6 and col. 1, lines 9-12).

Regarding claim 33, Faraone further discloses a speaker cone wherein the entire front end has an even number of discontinuities (See col. 3, lines 54 and 55).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12, 23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faraone. U.S. Patent No. 5,880,412.

Regarding claim 12, 23, and 25, Faraone discloses a speaker cone as claimed. Farone does not discretely disclose the plurality of discontinuities is an odd number of discontinuities. However, Faraone teaches that there are a plurality of segments (discontinuities). Therefore, it is

obvious to one of ordinary skill in the art that the number of discontinuities may be either odd or even and is merely a matter of design choice (See col. 4, lines 21-23).

Claim Objections

Claims 3-7, and 9 are objected to because of the following informalities: The word “the” follows “wherein” in each case and needs to be deleted. Appropriate correction is required.

Allowable Subject Matter

Claims 28-32 and 34-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 703-305-7363. The examiner can normally be reached on Mon-Fri: 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

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Or faxed to:

(703) 872-9314, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

BKE
October 15, 2002


HUYEN LE
PRIMARY EXAMINER